UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/653,613	08/31/2000	Alan Lasneski	004589.P003	4147

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EXAMINER
SHAPIRO, LEONID

ART UNIT	PAPER NUMBER
2673	21

DATE MAILED: 11/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.		Applicant(s)
Office Action Summary	09/653,613		LASNESKI, ALAN
	Examiner		**Art Unit**
	Leonid Shapiro		2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _06 October 2003_.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _17-21,23-27 and 29-33_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _17-21,23-27 and 29-33_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
    1.☐ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
    a) ☐ The translation of the foreign language provisional application has been received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

1.   Claims 17-21, 23-27 and 29-33 rejected under 35 U.S.C. 103(a) as being unpatentable

over Kuzma (US Patent No. 5,574,700) in view of Manning (US Patent 5,519,790) and

Robotham et al. (US Patent No. 5,627,765).

As to claim 17, Kuzma teaches a method comprising: converting a frame of analog

image data to a frame of digital image data (See Fig 1-2, items 101-105, 220, 240, in description

See Col.5, Lines 13-14); capturing the frame of digital image data (See Fig. 2, items

210,230,240, in description See Col. 5, Lines 45-65);   converting subsequent frames of analog

image data to frames of digital image data (See Fig. 2, items 210,230,240, in description See Col.

5, Lines 45-65);   sending the captured frames to a display object (See Fig 1-2, items 101-105,

220, 240, in description See Col.5, Lines 58-65).

Kuzma teaches comparing frames (See Fig. 6, item 602). However, Kuzma does not

teach comparing pixel data of the converted subsequent frames to the pixel data of the captured

frame to identify a converted subsequent frame having pixel data that differs from the pixel data

of the captured frame by a threshold amount, capturing the identified frame, sending the captured

frames to a display object.

Manning teaches that after a key frame is established the next frame is compared to the key frame to determine whether the next frame is another key frame, capture the new key frame (See Fig. 2a-2c, items 42,50, in description See col.2, Lines 27-32); sending the captured frames to a display object, wherein the non-captured or (non-key) frames are skipped (See Fig. 2c, items 50,56,66, in description See Col. 6, Lines 3-5).

It would have been obvious to one ordinary skill in the art at the time of invention to use Manning approach in the Kuzma method of comparing frames to reduce video noise and also improve compressibility, required bandwidth, and reduce the storage capacity, which is always desired in any data processing (See Col. 2, Lines 15-16 in the Manning reference).

Kuzma and Manning do not show eliminating frames having pixel data that fail to differ from pixel data of the captured frame by more than threshold amount.

Robotham et al. teaches eliminating frames having pixel data that fail to differ from pixel data of the captured frame by more than threshold amount (See Fig. 1-3, items 14, 30, in description See Col. 2, Lines 38-50 and Col. 4, Lines 34-41).

It would have been obvious to one ordinary skill in the art at the time of invention to use Robotham et al. approach in the Kuzma and Manning method to eliminate frames in order to compress video (See Col. 2, Lines 15-16 in the Robotham et al. reference).

As to claim 18, Manning teaches the method of reducing video noise, which includes phase noise, with the threshold selection (See Col.1, Lines 53-55 in Robotham et al. reference).

As to claim 19, Manning uses pixel values as numerical value for each color of each pixel and the difference between any of the plurality of pixel values is the difference between the numerical values for each color of each of the corresponding pixels of the converted subsequent

frames to the pixel data of the captured frame (See Fig. 3-5, in description See Col. 2, Lines 26-33).

As to claim 20, Manning shows that the difference between any of the plurality of pixel values of the compared frames exceeds a pre-selected threshold value when the absolute value of the difference is grater than the pre-selected threshold value (See Fig.2b, item 42, in description See Col.2, Lines 25-32).

As to claim 21, Manning shows that the color for each pixel includes the color red, green, and blue (See Fig. 1, item 10, 12, 14, 16, in description See Col. 3, Lines 12-14).

As to claim 23, Kuzma teaches an article of manufacture comprising a machine accessible medium having content that when accessed provides instructions to cause an electronic system to: convert a frame of analog image data to a frame of digital image data (See Fig 1-2, items 101-105, 220, 240, in description See Col.5, Lines 13-14); capture the frame of digital image data frames (See Fig. 2, items 210,230,240, in description See Col. 5, Lines 45-65); convert subsequent frames of analog image data to frames of digital image data (See Fig. 2, items 210,230,240, in description See Col. 5, Lines 45-65);   send the captured frames to a display object (See Fig 1-2, items 101-105, 220, 240, in description See Col.5, Lines 58-65).

Kuzma teaches comparing frames (See Fig. 6, item 602). However, Kuzma does not teach compare pixel data of the converted subsequent frames to pixel data of the captured frame to identify a converted subsequent frame having pixel data that differs from the pixel data of the captured frame by a threshold amount, capture the identified frame; and sent the captured frames to a display object.

Manning teaches that after a key frame is established the next frame is compared to the

key frame to determine whether the next frame is another key frame, capture the new key frame

(See Fig. 2a-2c, items 42,50, in description See col.2, Lines 27-32); sending the captured frames

to a display object, wherein the non-captured or (non-key) frames are skipped (See Fig. 2c,

items 50,56,66, in description See Col. 6, Lines 3-5).

It would have been obvious to one ordinary skill in the art at the time of invention to use

Manning approach in the Kuzma article of manufacturing of comparing frames to reduce video

noise and also improve compressibility, required bandwidth, and reduce the storage capacity,

which is always desired in any data processing (See Col. 2, Lines 15-16 in the Manning

reference).

Kuzma and Manning do not show eliminating frames having pixel data that fail to differ

from pixel data of the captured frame by more than threshold amount.

Robotham et al. teaches eliminating frames having pixel data that fail to differ from pixel

data of the captured frame by more than threshold amount (See Fig. 1-3, items 14, 30, in

description See Col. 2, Lines 38-50 and Col. 4, Lines 34-41).

It would have been obvious to one ordinary skill in the art at the time of invention to

use Robotham et al. approach in the Kuzma and Manning article of manufacturing to eliminate

frames in order to compress video (See Col. 2, Lines 15-16 in the Robotham et al. reference).

As to claim 24, Manning teaches the article of manufacture of reducing video noise,

which includes phase noise, with the threshold selection (See Fig. 2, in description See Col.3,

Lines 29-33, and Col. 2, Lines 28-33).

As to claim 25, Manning uses pixel values as numerical value for each color of each pixel and the difference between any of the plurality of pixel values is the difference between the numerical values for each color of each of the corresponding pixels of the converted subsequent frames to the pixel data of the captured frame (See Fig. 3-5, in description See Col. 2, Lines 26-33).

As to claim 26, Manning shows that the difference between any of the plurality of pixel values of the compared frames exceeds a pre-selected threshold value when the absolute value of the difference is grater than the pre-selected threshold value (See Fig.2b, item 42, in description See Col.2, Lines 25-32).

As to claim 27, Manning shows that the color for each pixel includes the color red, green, and blue (See Fig. 1, item 10, 12, 14, 16, in description See Col. 3. Lines 12-14).

As to claim 29, Kuzma teaches an apparatus comprising: a frame conversion unit to convert frames of analog image data to a frame of digital image data (See Fig 1-2, items 101-105, 220, 240, in description See Col.5, Lines 13-14); a buffer coupled with frame conversion unit to store a frame of digital image data and subsequent converted frames (See Fig. 2, items 210,230,240, in description See Col. 5, Lines 45-65.

Kuzma teaches comparing frames (See Fig. 6, item 602). However, Kuzma does not teach a processor coupled with buffer to compare the pixel data of the frame of digital image data and pixel data from the subsequent converted frames to identify a subsequent converted frame having pixel data that differs from the pixel data of the frame of digital image data by a threshold amount; and a transmission unit to send the frame of digital image data and the identified frame to a display object.

Manning teaches that after a key frame is established the next frame is compared to the key frame to determine whether the next frame is another key frame, capture the new key frame (See Fig. 2a-2c, items 42,50,66 in description See Col.2, Lines 27-32); a transmission unit to send the frame of digital image data and the identified frame to a display object (See Col. 6, Lines 1-11 and Col. 5, Lines 58-60).

It would have been obvious to one ordinary skill in the art at the time of invention to use Manning approach in the Kuzma method of comparing frames to reduce video noise and also improve compressibility, required bandwidth, and reduce the storage capacity, which is always desired in any data processing (See Col. 2, Lines 15-16 in the Manning reference).

Kuzma and Manning do not show eliminating subsequent converted frames having pixel data that fail to differ from pixel data of the captured frame by more than threshold amount.

Robotham et al. teaches eliminating frames having pixel data that fail to differ from pixel data of the captured frame by more than threshold amount (See Fig. 1-3, items 14, 30, in description See Col. 2, Lines 38-50 and Col. 4, Lines 34-41).

It would have been obvious to one ordinary skill in the art at the time of invention to use Robotham et al. approach in the Kuzma and Manning article of manufacturing to eliminate frames in order to compress video (See Col. 2, Lines 15-16 in the Robotham et al. reference).

As to claim 30, Manning teaches the apparatus of reducing video noise, which includes phase noise, with the threshold selection (See Fig. 2, in description See Col.3, Lines 29-33, and Col. 2, Lines 28-33).

As to claim 31, Manning uses pixel values as numerical value for each color of each pixel and the difference between any of the plurality of pixel values is the difference between the

numerical values for each color of each of the corresponding pixels of the converted subsequent

frames to the pixel data of the captured frame (See Fig. 3-5, in description See Col. 2, Lines 26-

33).

As to claim 32, Manning shows that the difference between any of the plurality of pixel

values of the compared frames exceeds a pre-selected threshold value when the absolute value of

the difference is grater than the pre-selected threshold value (See Fig.2b, item 42, in description

See Col.2, Lines 25-32).

As to claim 33, Manning shows that the color for each pixel includes the color red, green,

and blue (See Fig. 1, item 10, 12, 14, 16, in description See Col. 3. Lines 12-14).

Response to Amendment

2.   Applicant's arguments filed on 10-06-03 with respect to claims 17-21, 23-27, 29-33 have

been considered but are moot in view of the new ground(s) of rejection.
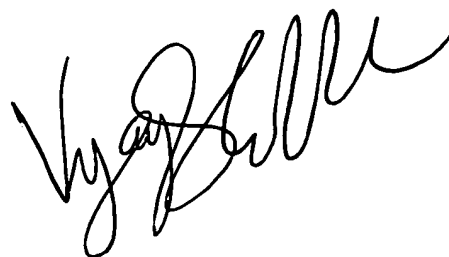

Telephone inquire

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Leonid Shapiro whose telephone number is 703-305-5661. The

examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Bipin Shalwala can be reached on 703-305-4938. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703-305-4750.

ls

VIJAY SHANKAR
PRIMARY EXAMINER